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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,528	10/18/2001	Andrew William Mackie	2639/A36	7291

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BROMBERG & SUNSTEIN LLP  
125 SUMMER STREET  
BOSTON, MA 02110-1618

EXAMINER
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JACKSON, JAKIEDA R

ART UNIT	PAPER NUMBER
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2626

MAIL DATE	DELIVERY MODE
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10/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/042,528	Applicant(s) MACKIE, ANDREW WILLIAM	
	Examiner Jakieda R. Jackson	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-9 is/are allowed.
- 6) ☒ Claim(s) 1-2 and 14- 15 is/are rejected.
- 7) ☐ Claim(s) 11-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to the Office Action mailed June 12, 2007, applicant submitted an amendment filed on July 30, 2007, in which the applicant amended and requested reconsideration with respect to **claim 1**.

### ***Response to Arguments***

2. Applicants argue that Carcus does not assign weights to breakpoints nor does it disclose using weights to determine an order for traversing substrings. Applicant's arguments are persuasive, but are moot in view of new grounds of rejections.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-2 and 14-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Carcus et al. (USPN 6,035,268) hereinafter referenced as Carcus in view of Shapiro et al. (PGPUB 2003/0014405), hereinafter referenced as Shapiro.

Art Unit: 2626

Regarding **claim 1**, Carcus discloses a method for segmenting compound words in an unrestricted natural-language input, the method comprising:

receiving a natural-language input (natural language) consisting of a plurality of characters (receiving stream of input text; compound word; column 1, line 19 –column 7, line 18);

constructing a set of probabilistic breakpoints in the natural-language input based on probabilistic breakpoint analysis (statistical analysis; column 1, line 19 –column 7, line 18);

identifying a plurality of linkable components by traversal of substrings of the natural-language (natural language) input delimited by the set of probabilistic breakpoints (word breaks) wherein a linkable component (link) is identified by locating the component in a lexicon (lexicon; column 1, line 19 –column 7, line 18); and

returning a segmented string consisting of a plurality of linkable components spanning (spanning) the natural-language input, wherein the segmented string is interpreted as a compound word (compound word; column 1, line 19 –column 7, line 18), but does not specifically teach assigning weights to the breakpoints in the natural-language input and traversing substrings of the natural-language input in an order determined by the weights assigned to the breakpoints.

Shapiro discloses a method wherein assigning weights (computing the weights) to the breakpoints in the natural-language input (parsing the query) and traversing substrings of the natural-language input in an order (creating an ordered list of terms by sorting their terms in order of their computed weights) determined by the weights

assigned to the breakpoints (column 1, paragraphs 0010-0011 and column 2, paragraph 0023), to improve quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Carcus' method wherein it is described as above, to tell the user which words are considered the most important in the search (column 1, paragraph 0011).

Regarding **claim 2**, Carcus discloses a method further including the step of analyzing a chart of the linkable components in the case that the segmented string cannot be constructed and returning an unsegmented string interpretable as a partial analysis of a compound word (removed from the word breaker; column 1, line 19 – column 7, line 18 and column 36-54).

Regarding **claim 14**, Carcus discloses a method wherein assigning weights comprises combining weights of contexts of one length that precede a breakpoint and of contexts of a different length that follow the breakpoint (inherent in parsing; column 1, paragraphs 0010-0011 and column 2, paragraph 0023).

Regarding **claim 15**, Carcus discloses a method wherein assigning weights comprises weighting weights of a plurality of context of different lengths that precede and follow a breakpoint (inherent in parsing; column 1, paragraphs 0010-0011 and column 2, paragraph 0023).

***Allowable Subject Matter***

5. The following is a statement of reasons for allowance:

As for independent claim 3, it recites an apparatus for segmenting compound words in a natural-language input. Prior art such as Franz show a similar configuration but fails to teach the recited configuration wherein a probabilistic breakpoint analyzer is coupled to the startpoint probability matrix, the endpoint probability matrix and the natural-language input, the probabilistic breakpoint analyzer being operative to generate a breakpoint-annotated input from the natural-language input.

Dependent claims 4-9 are allowed because they further limit their parent claims.

6. Claims 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Lee et al. (PGPUB 6,789,088) discloses a multimedia description scheme having weight information and method for displaying multimedia.

Art Unit: 2626

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571-272-7619. The examiner can normally be reached on Monday-Friday from 5:30am-2:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRJ  
October 8, 2007



**DAVID HUDSPETH**  
**SUPERVISORY PATENT EXAMINER**  
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